

ABSTRACT OF THE DISCLOSURE

There is provided white light illumination system including a radiation source, a first luminescent material having a peak emission wavelength of about 575 to about 620 nm, a second luminescent material having a peak emission wavelength of about 495 to about 550 nm, which is different from the first luminescent material and a third luminescent material having a peak emission wavelength of about 420 to about 480 nm, which is different from the first and second luminescent materials. The LED may be a UV LED and the luminescent materials may be a blend of three or four phosphors. The first phosphor may be an orange emitting Eu^{2+} , Mn^{2+} activated strontium pyrophosphate, $\text{Sr}_2\text{P}_2\text{O}_7:\text{Eu}^{2+}$, Mn^{2+} . The second phosphor may be a blue-green emitting Eu^{2+} activated barium silicate, $(\text{Ba},\text{Sr},\text{Ca})_2\text{SiO}_4:\text{Eu}^{2+}$. The third phosphor may be a blue emitting SECA phosphor, $(\text{Sr},\text{Ba},\text{Ca})_5(\text{PO}_4)_3\text{Cl}:\text{Eu}^{2+}$. Optionally, the fourth phosphor may be a red emitting Mn^{4+} activated magnesium fluorogermanate, $3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2 \cdot \text{Mn}^{4+}$. A human observer perceives the combination of the orange, blue-green, blue and/or red phosphor emissions as white light.